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Sudo et al.

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## [54] COMMUNICATION TERMINAL APPARATUS AND CONTROL METHOD THEREOF

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[\*] Notice: This patent is subject to a terminal disclaimer.

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### [56] References Cited

#### U.S. PATENT DOCUMENTS

4,885,771 12/1989 Rabideau .

5,237,311	8/1993	Mailey et al. ....	345/167
5,422,656	6/1995	Allard et al. ....	455/566
5,436,954	7/1995	Nishiyama et al. ....	455/566
5,627,531	5/1997	Posso et al. ....	345/184
5,758,295	5/1998	Ahlberg et al. ....	455/566

### FOREIGN PATENT DOCUMENTS

2012199	9/1991	Canada .
0463582	1/1991	European Pat. Off. .
0588210	3/1994	European Pat. Off. .
0602840	6/1994	European Pat. Off. .
9404084	4/1996	Germany .
04245837	9/1992	Japan .

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[57]

### ABSTRACT

A communication terminal apparatus such as a portable telephone apparatus has a main body, a selection operation unit, an operation inputting unit, a display unit, and a controller. The main body has a speaker and a microphone. The selection operation unit is provided on the main body and selects one mode from a plurality of modes of the communication terminal apparatus. The operation inputting unit is provided on the main body and changes functions based on the mode selected by the selection operation unit. The display unit is provided on the main body and displays information required for selection operation or inputting operation by the selection operation unit and/or the operation inputting unit. The controller sets a mode selected based on the input from the selection operation unit, and switches a function of the operation inputting unit based on the input from the selection operation unit. The controller controls display operation of the display unit based on the input from the selection operation unit and/or the operation inputting unit.

4 Claims, 28 Drawing Sheets

